

The complete machine code development system



AN EDITOR, ASSEMBLER, MONITOR AND ANALYSER THAT REPRESENTS A NEW APPROACH TO MACHINE CODE DEVELOPMENT.

GENIUS is a state of the art machine code development system which comprises an editor/assembler, monitor and analyser. The analyser in particular offers features which have not been previously available and are aimed at making program development much quicker and easier.

THE EDITOR

The editor produces tokenised source files. This means that as little as a half or a third of the normal space is required and assembly is two or three times as fast when compared with conventional two-pass assemblers. There is also provision for loading source files created with other popular assemblers.

- Source files can be loaded and saved from and to tape and disk from within the editor which supports all the Amstrad's disk/tape commands.
- 80, 40 or 20 column screens can be selected and listings are automatically formatted.
- The full screen editor is screen buffered and uses block/paragraph numbering rather than line numbering.

THE ASSEMBLER

The assembler (which is co-resident with the editor) is a full two-pass macro assembler which allows conditional assembly and the inclusion of named files from tape or disk. There are also a number of facilities not available with contemporary assemblers.

- Built in calculator (which has access to the symbol table after assembly).
- The symbol table may be saved to tape or disk for cross referencing and those labels used but not defined, or defined but not used, can be listed separately.
- Compiles integer arithmetic functions and high level looping structures (see screen shot).
- Assembly is to and from tape, disk and memory.

THE MONITOR

The monitor and analyser can be used with a 40 or 80 column screen. There is a continuously updated front panel display which shows register contents, flags, memory dump, stack contents, disassembly area, ROM selections and command edit line.
All the usual features of a monitor/debugger are supported:

Single keystroke control of memory dump cursor and single stepping; Proper command line with editor and error messages; Command interpreter for control of register values, memory pointer, stack operations and breakpoints; Disassembly from absolute address or register value to screen, printer, tape or disk with CALL or JUMP labels automatically generated. Memory can be edited, filled, moved, saved, loaded and dumped.

The monitor also contains the following special features:

- 8 modes of slow running with differing levels of screen updating and execution speed.
- A trace facility which allows the path of the program being single stepped or slow run to be stored for later listing. Used in conjunction with the analyser, programs can be debugged by working back to the error. The number of instructions stored is allocated by the user.
- There are 17 varieties of breakpoint and up to 8 of these can be set at one time. Options include a 'down-count' and facilities to control and change the slow run mode.
- The comprehensive manual includes instructions for relocating and re-saving a personalised copy of the monitor.

THE ANALYSER

The analyser can be loaded as an optional extra to the monitor and performs some functions which are normally only associated with hardware debugging devices. The analyser allows the definition of intelligent, programmable breakpoints, which stop a slow run when a user definable condition occurs. The conditions that can be tested are the state of the Z80 flags and registers, the contents of memory and whether a memory read or write has occurred.

As an example of its use, suppose your program reaches a certain point and then crashes, writing extraneous data to the screen. The trace facility would be switched on and your program run until any location in the range of screen RAM is written to. At this point the trace facility is used to find how the part of code which wrote to the screen was reached. We are convinced that the analyser represents an important new tool for the machine code programmer.

LASER GENIUS, the definitive system for machine code programming, is part of the OCEAN "Innovation and Quality" range, brought to you with the combined skills and resources of OCEAN and OASIS (producer of "White Lightning"). Other easy to use products in this range will include extended BASICs, Compilers, screen designers, music composers and word processors to make your programming more rewarding and exciting.





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LASER GENIUS
INTERACTIVE SOFTWARE
FOR THE AMSTRAD CPC464/664/6128

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